Claims

1. Optical module containing an optical multiplexer with at least an optical data access, an optical probe access and an optical data output wherein an optical data signal carried by n different interleaved wavelength channels each at a bit–rate F/n as well as an optical clock signal at frequency F and at wavelength λ_c are launched respectively on said at least one optical data access and said optical probe access such that in said optical multiplexer said optical data signal is synchronized with said optical clock signal to give a converted optical time domain multiplexed signal on said optical data output at a bit–rate F and at wavelength λ_c.

2. Optical module according to claim 1, whereby said optical modul contains an optical filter on said optical data output let passing only an optical signal at wavelength λ_c.

3. Optical module according to claim 1, whereby said optical multiplexer comprises a semiconductor optical amplifier Mach–Zehnder interferometer.

4. Optical module according to claim 1, whereby said optical multiplexer comprises a non–linear optical loop mirror.

5. Optical module according to claim 1, whereby said optical multiplexer comprises an interleaver for interleaving the n different wavelength channels.

6. Method for synchronizing an optical data signal carried by n different interleaved wavelength channels each at a bit–rate F/n using an optical clock signal at frequency F and at wavelength λ_c by launching said optical data signal and optical clock signal respectively on at least one optical data access and an optical probe access of an optical multiplexer, while in said optical multiplexer said optical data signal is converted to give an optical time domain multiplexed signal on said optical data output at a bit–rate F and at wavelength λ_c.

7. Method for synchronizing an optical data signal according to claim 6, whereby afterwards is filtered out on said optical data output all other optical signals except the ones at wavelength λ_c.